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Selected US specifications from IPC sub-classes F16J F16L

(54) **Improved transit for cables and pipes**

(57) In a lead-through transit for cables and pipes having a lead-through block 4 for each cable 3, at least one cable 3 is of non-circular section extending through an axial passsageway defined by two cable members 41 located and received between two half-blocks 40 of the associated lead-through block 4. The cable members 41 are rotatable relative to the half-blocks 40 to permit the orientation of the cable 3 to be adjusted and may be axially located by ridges relative to grooves in the half-blocks 40 to position the cable members 41 between the half-blocks 40 to facilitate assembly and installation. The lead-through blocks 4 are assembled in rows within a rectangular opening 2 in an outer metal frame 1 together with blanking blocks 5 to blank off any space in the rows and a compression and packer assembly 7 completes filling of the opening 2 to clamp and hold the blocks 4,5 and cables 3 in sealed engagement.

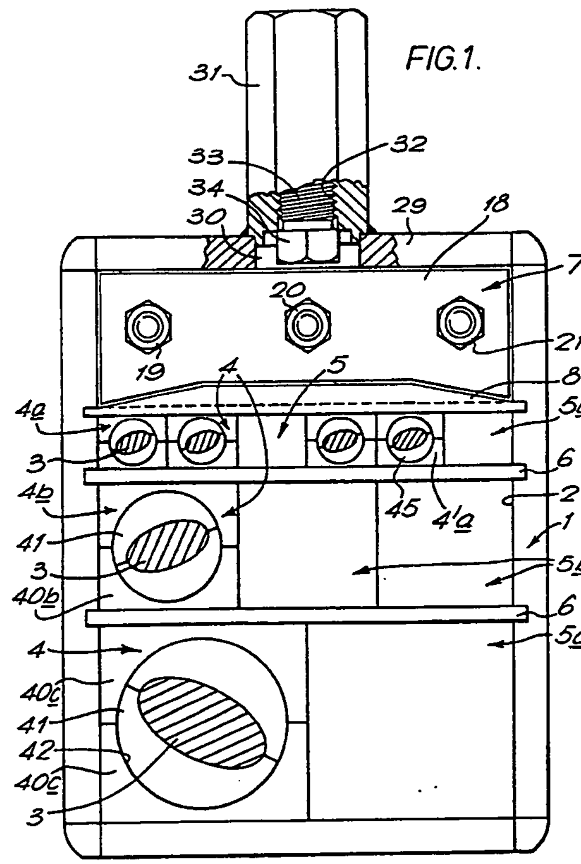

FIG.1.

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The drawing(s) originally filed was (were) informal and the print here reproduced is taken from a later filed formal copy.
The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1982.

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FIG.1.

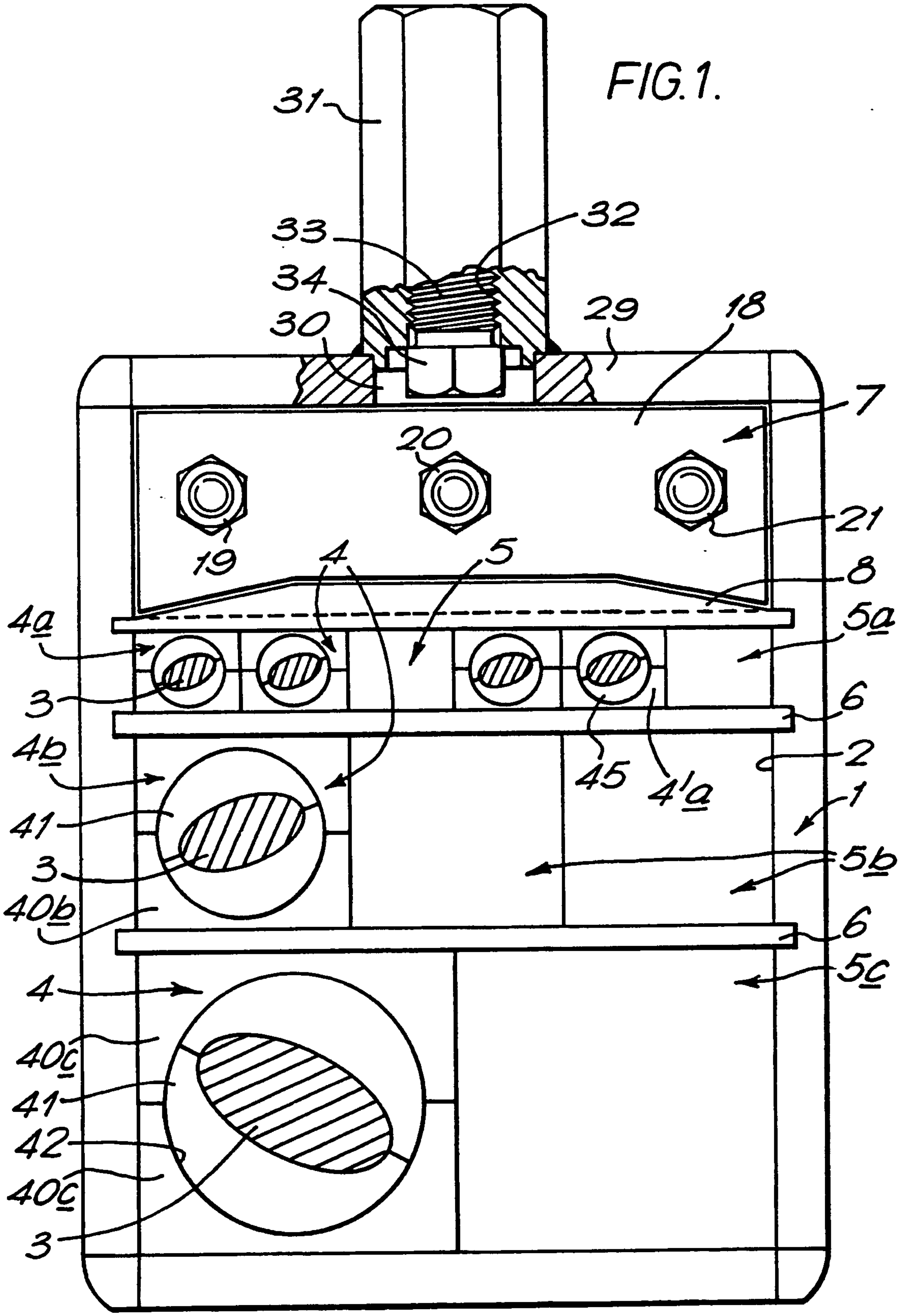


FIG. 2.

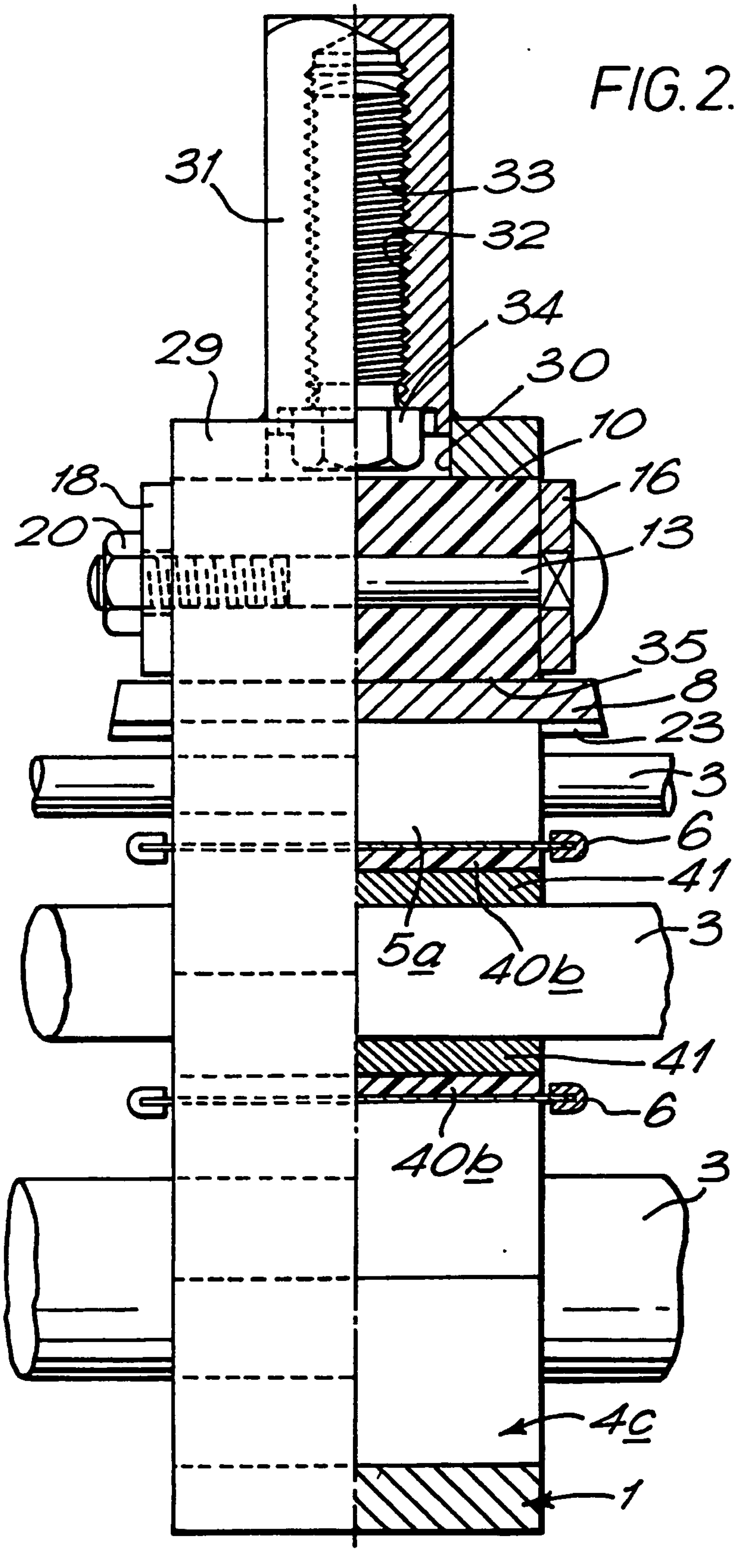
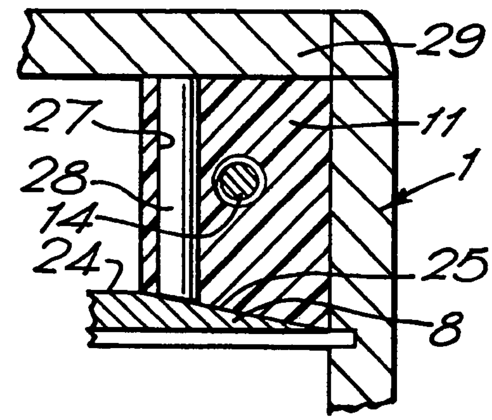


FIG.4.



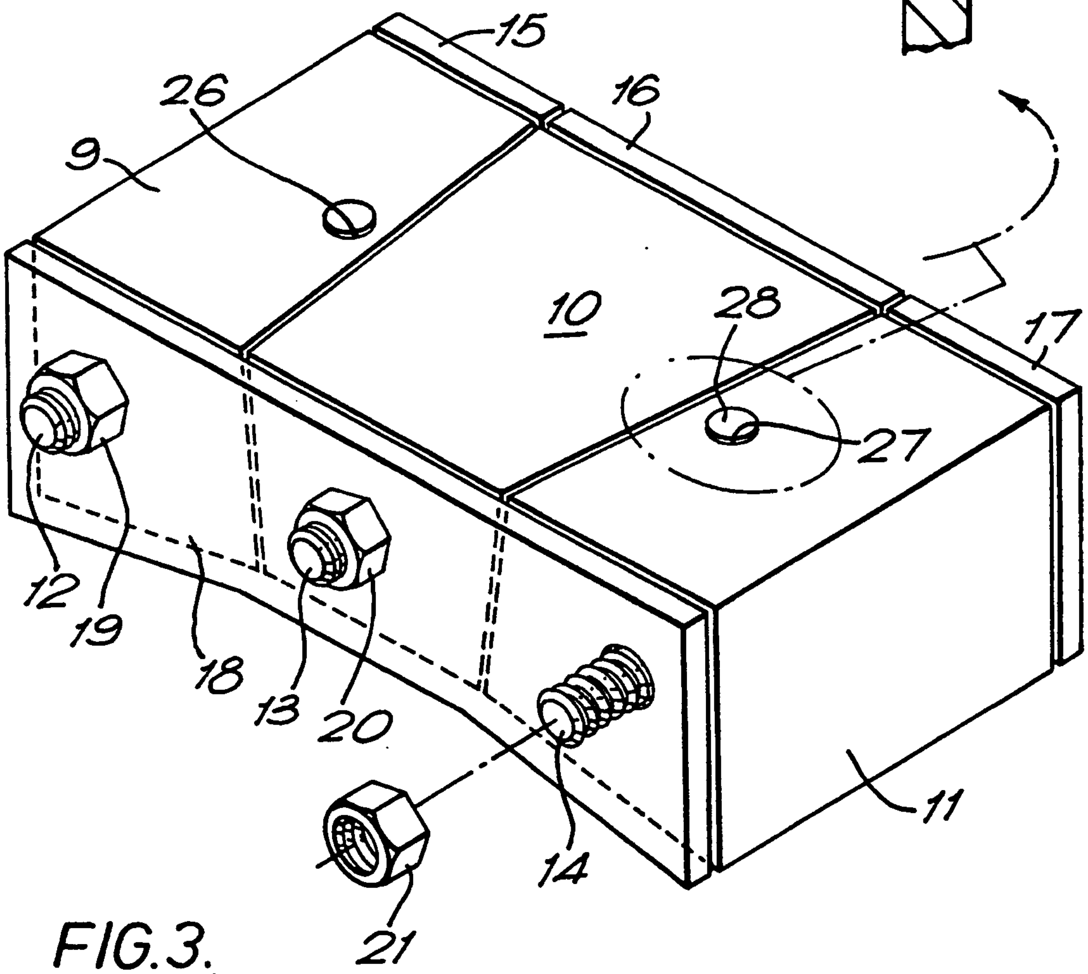


FIG.3.

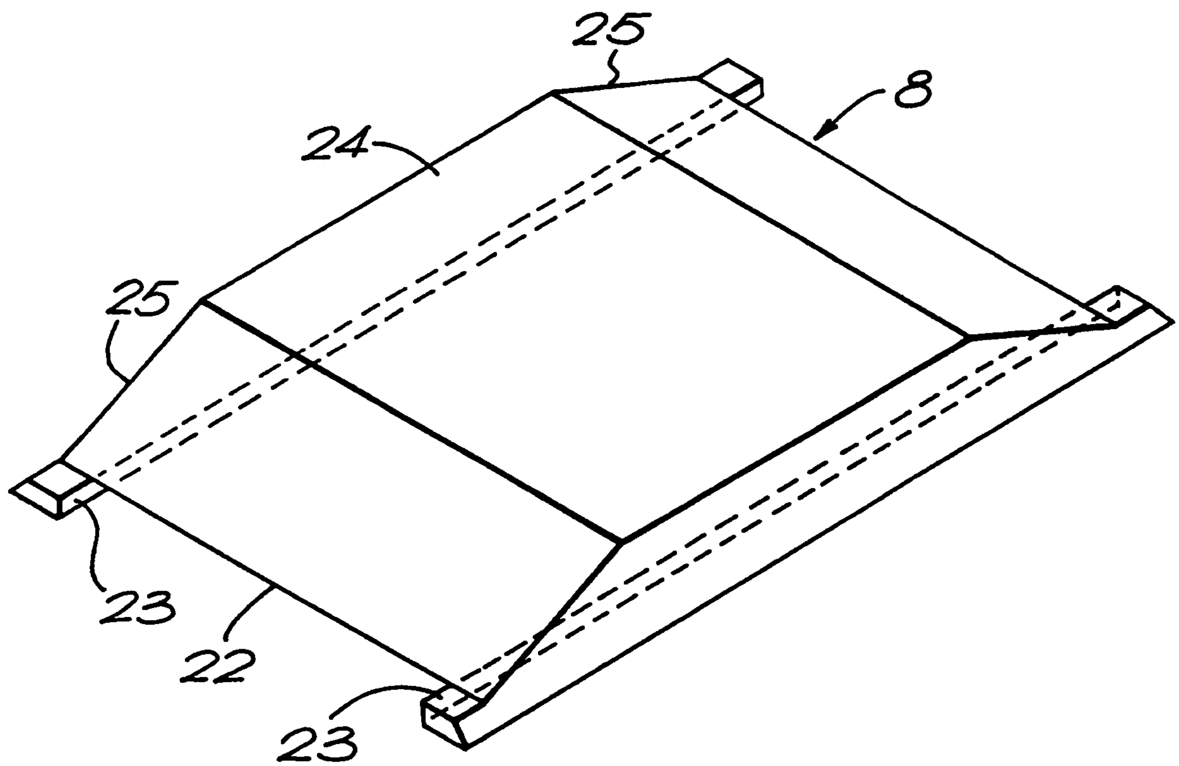


FIG.5.

FIG.6.

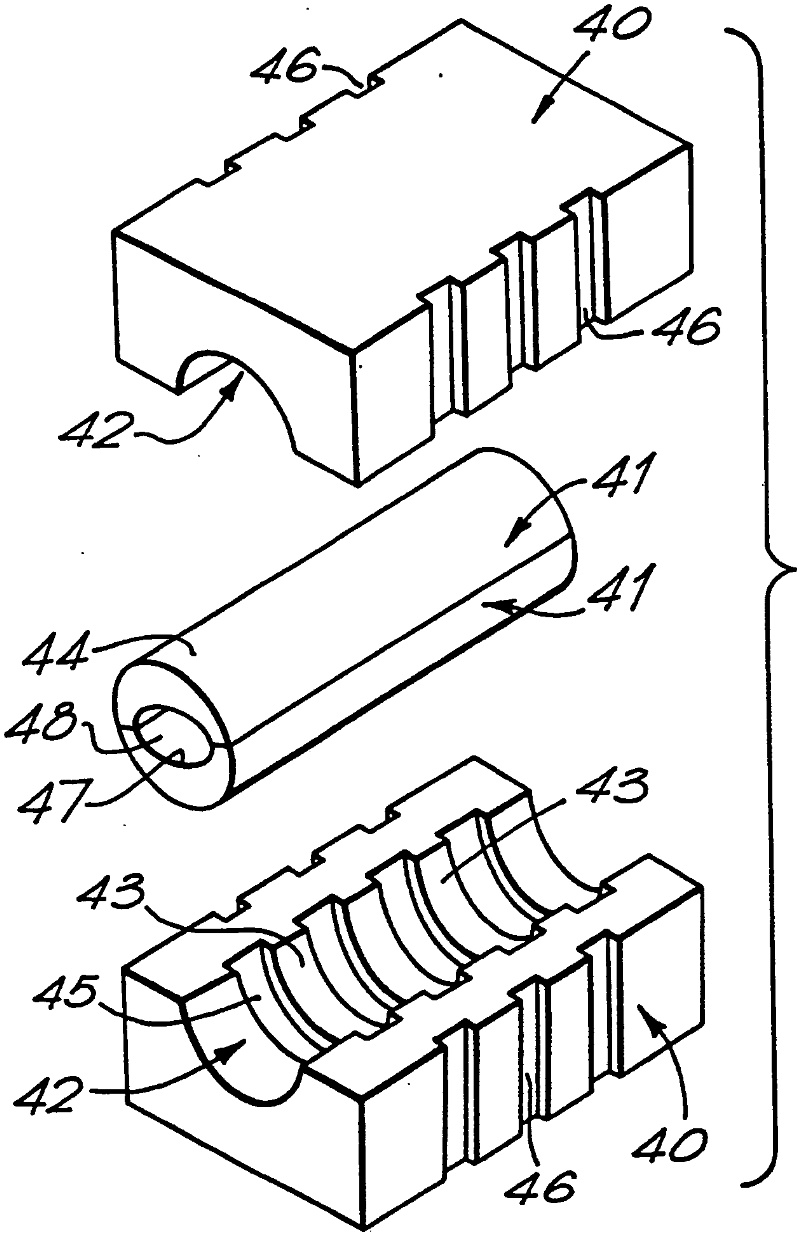


FIG. 7.

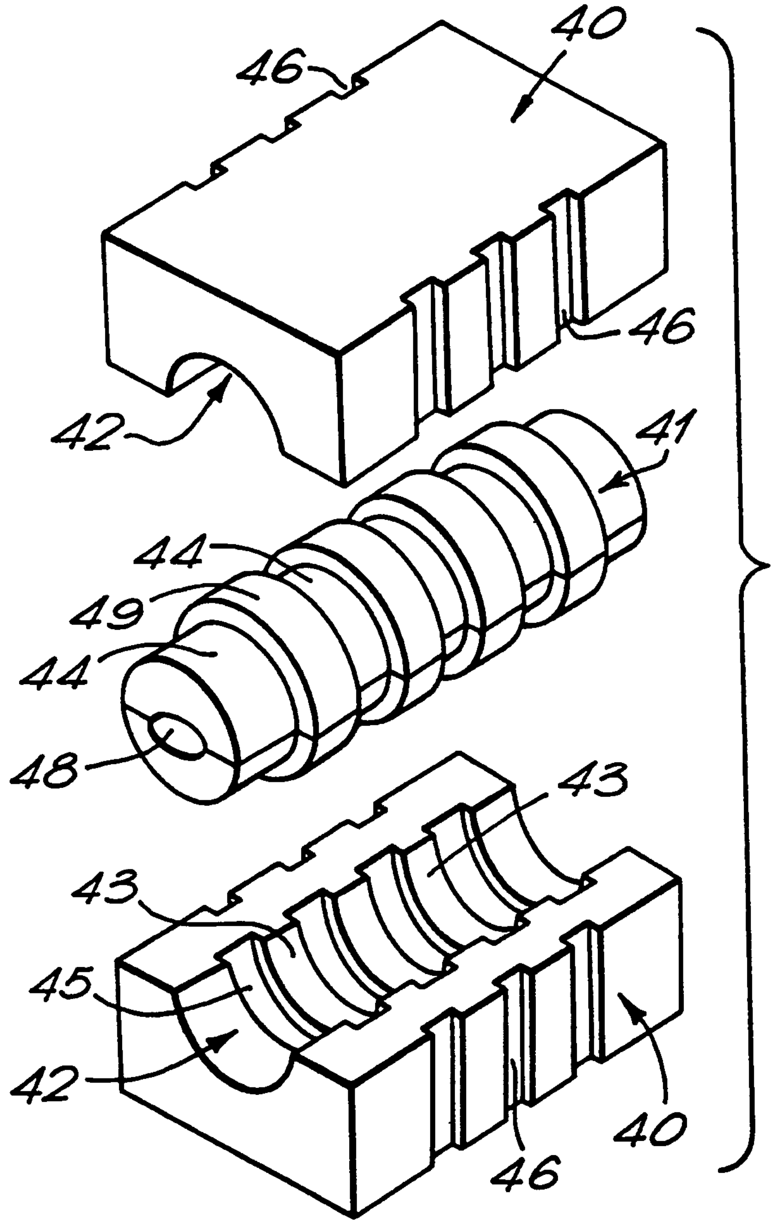
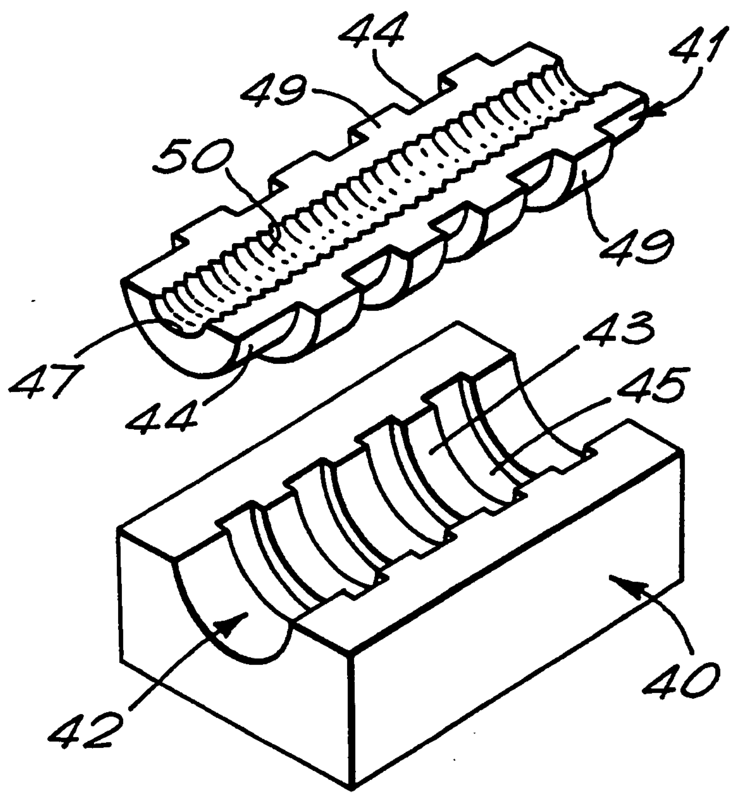


FIG.8.



IMPROVED TRANSIT FOR CABLES AND PIPES

This invention relates to a transit providing a lead-through for electric cables or pipes that are required to extend through an opening in a wall, bulkhead, partition or the like.

This invention concerns certain improvements in a particular kind of transit as hereinafter defined and which is for use with cables, wires, waveguides, pipes or tubes or the like elongate elements commonly used in an installation for conducting electricity, service commodities such as gas, oil or water, or for telecommunications or for enclosing such service lines. For convenience herein, the term "cable" is used and should be interpreted in the context to include all such aforesaid elongate elements.

This invention is particularly concerned with a transit of the kind now defined as comprising a rectangular metal frame defining an opening through which the cables are to extend, a series of sets of modular blocks for assembly in rows within the frame opening, the blocks being adapted for surrounding each cable or for blanking off a modular space, and a compression and packer assembly for mounting in the frame opening to clamp the assembled blocks together and around each cable with the compression and packer assembly completing filling of the frame opening.

Such defined kind of transit for cables is well known and is disclosed in Patent Specification GB 1,049,621.

Typically, transits of the defined kind are used in a wide range of applications and are installed in various environments including hazardous and have to

meet specific regulations for fire-proof or flame-proof or gas-tight installations. Usually, a transit has to be assembled on site and often the working conditions at the installation site are difficult in many respects, such as:- access and location; the numbers, types and sizes of cable; limited working space and lack of access to both inlet and exit sides of the lead-through; and, ambient temperature, weather and environmental conditions.

Conventionally in transits of the defined kind, in each series set of the modular blocks, each block is of square section and has a length substantially the same as the depth of the metal frame into which the blocks are assembled in an array of superimposed rows. Each block in a set of blocks has the same external dimensions and a plurality of blocks from one set will completely fill one row across the inside of the frame. To provide blanks at locations in a row where no lead-through is required, each set includes solid blank blocks for assembly in the row.

The conventional application of such known transit is for cable (as defined herein) which has a circular cross-section, and for a cable lead-through, the blocks have a through hole of a diameter corresponding to the diameter of the cable to be surrounded by the block, and to facilitate fitting and assembly each such block is formed in two complementary halves with semi-cylindrical recesses that, when aligned, provide the lead-through hole in which the cable is seated.

Such known cable transits of the defined kind have a sized lead-through blocks corresponding to each nominal diameter cable size, and as a result to fit and install a transit for even a small number of cables, it

is essential to have a large number of lead-through blocks on site, particularly as cables are often not to the nominal given size and alternative lead-through blocks have to be used to correspond to the actual diameter of the cable.

Such known transits are not designed for use with cables (as defined herein) and which are specifically of noncircular shape in cross-section. There are a wide range of cables which are made to noncircular shapes such as oval, oblong, substantially square or rectangular. Such noncircular shapes are used for applications of cables including for telecommunications and waveguides. As explained above, the traditional and known types of transits are designed specifically for cables and pipes that are of circular section. Even if the leadthrough blocks were made to have a lead-through passageway corresponding to the noncircular section of a particular types of cable, then this would not solve the problems arising from the large numbers of blocks required. Furthermore, such proposal to modify the existing types of lead-through blocks would lead to even more problems due to the fact that most cables have a twist or set along their length.

It is an object of this invention to provide a transit for cables or pipes having a cross-section which is noncircular.

It is a further object of this invention to provide an improved transit for noncircular section cables which is simple and easy to install on site and by which the numbers of component parts required to be handled by a fitter or stocked by the user are minimised.

Other objectives and advantageous features of this invention will be referred to later herein.

According to this invention, we provide a transit of the defined kind for cables or the like of noncircular section characterised in that the lead-through block comprises two complementary half-blocks and two complementary cable members, the half-blocks having semi-cylindrical seatings formed therein to receive complementary outer seating faces on the cable members and the cable members being formed with inner faces to define an axial passageway of noncircular shape corresponding to the cable when the two cable members are assembled together, the arrangement of the leadthrough block being such that in use the cable is received between the two complementary cable members and extends through the axial passageway formed thereby and, the cable members are located and received between the half-blocks engaging the semi-cylindrical seatings thereof.

By this invention, the cable members are designed with inner faces that complement the shape of the noncircular cable whilst the outer seating faces of the cable members and the semi-cylindrical seatings of the half-blocks provide the seating for engaging and receiving the cable members. The same size or a common form of half-blocks can be used for a wide range of cable members which are selected for their shape and size of axial passageway with respect to a particular noncircular cable for that lead-through block.

Preferably, the complementary half-blocks are formed with at least two axially spaced semi-cylindrical seatings that are arranged to provide axially spaced annular seating and sealing faces

engaging with the outer seating faces of the cable members which the lead-through blocks has the selected cable extending therethrough.

By this arrangement with the axially spaced annular seating and sealing faces, the circumferential attitude of the cable members relative to the half-blocks can be varied or adjusted to suit the installation requirements whilst an adequate seal between the cable members and the half-blocks is maintained. This enables cables with a twist or set along the axial length thereof to be accommodated and installed though the transit.

In a simple preferred form of the cable members of this invention, the outer seating faces thereof provide a right-cylindrical surface when the cable members are assembled with the cylindrical outer faces engaging with the annular seating and sealing faces of the half-blocks.

In this preferred form of cable members, it will be understood that the cable members virtually form a sleeve which encloses that part of the cable to be received and extend through the transit and which sleeve has an inner passageway conforming to the noncircular shape of the cable whilst presenting an outer cylindrical face for engagement with the half-blocks. This simple arrangement provides a solution to the use of transits of the kind defined for cables of noncircular section.

The inner faces of the cable members may be plain or can be provided with irregular formations, such as ribs, grooves or disconformities to accomodate the outer finish or surface of the cable to ensure adequate sealing at the interface between the cable members and the cable.

Such special form of the surface of the inner faces of the cable members may be chosen to suit the type of cable, for instance armoured or metal sheathed cable or cable insulation of an irregular form. In addition, such disconformities in the inner face of the cable members may accommodate minor disconformities in the outer face of the cable whilst ensuring good sealing contact.

In another preferred form of the cable members and half-blocks, the half-blocks are formed with semi-cylindrical recesses intermediate the semi-cylindrical seating faces and the cable members are formed with complementary semi-annular ribs on their outer faces to seat in such recesses.

In this preferred form of the cable members and the half-blocks, the inter-engagement of the ribs and grooves ensures that the cable members cannot be displaced axially from the ahlf-blocks in the assembled installation and assists in the assembly and location of the cable members and half-blocks during fitting.

The outer faces of the half-blocks may be plain, but preferably the outer faces have grooves or recesses therein which extend transverse to the axial direction of the cable and which assist in the required limited and controlled deformation of the assembled lead-through block during installation and assembly of the transit.

The invention, of which further important features will be described later herein, is particularly (but not exclusively) arranged for use with cables that are symmetrical but noncircular. In this particular arrangement each cable member may be the same so that they are used in common pairs. However, there are

special types of cables in which two matching cable members may be dissimilar insofar as their inner faces are concerned to match the shape of cable that can be asymmetrical. In either arrangement, as the cable members are received and located inbetween the semi-cylindrical seating faces of the half-blocks, then the cable members can be rotated or turned relative to the half-blocks to set the cable in the required or necessary position for extending through the transit.

As will be appreciated, for one sized pair of half-blocks, a range of cable members can be provided to suit the cable shape and size. In addition, the special invented form of leadthrough blocks can be used in a transit of known kind in order that the transit accommodate both standard circular types of cables and pipes as well as the noncircular shape of cables to which this invention is specifically directed.

Other features of this invention will now be described with reference to exemplary embodiments that are shown in use with a simple noncircular oval shape of cable and as applied to a transit of a particular kind developed previously by the Applicant.

<u>FIGURE 1</u> is a front elevation of a cable transit according to this invention shown in the assembled position with the noncircular cables in situ;

<u>FIGURE 2</u> is a partly sectioned side view of the cable transit shown in Figure 1;

<u>FIGURE 3</u> is an isometric view of part of the compression and packer assembly;

<u>FIGURE 4</u> is a detail sectional view of part of assembly shown in Figure 3 and as indicated therein;

<u>FIGURE 5</u> is an isometric view of the compression plate of the compression and packer assembly;

FIGURE 6 is a detail isometric view of the component parts of a lead-through block having a first type of cable members;

FIGURE 7 is a detail isometric view similar to that of Figure 6 but showing a second type of cable members; and

FIGURE 8 is a detail isometric view of a cable member of the second type with a modified half-block.

With reference to the drawings of Figures 1 and 2, the improved cable transit comprises a rectangular frame 1 defining an opening 2 through which cables 3 of different sizes and of oval noncircular shape extend. Each cable 3 is held within a lead-through block 4 whilst solid blank blocks 5 or blanking lead-through blocks 4' fill the modular spaces of the opening where no cable is present.

In known manner, the frame 1 is for mounting or support in an aperture in a bulkhead or partition or the like (not shown) and the numbers and sizes of cables may vary from one installation to another. For simplicity of explanation of this invention, only a small number of cables are depicted and the assembly is not as complex as found in practice where tens of cables may have to be accommodated and installed at the site location.

In this embodiment, there is depicted three series of modular sized sets of blocks 4 with the sizes being designated by the suffixes a, b and c. Each series set has a common length corresponding substantially to the depth of the opening 2 and the frame 1. Each series set has blocks 4 of substantially square section with the respective width and height dimensions of each set being selected to a common

multiple so that a plurality of blocks of each set will complete a row or fill a modular space within the frame. Typical suitable modular dimensions are 90mm, 60mm and 30mm for the square section blocks.

Each set of blocks 4 is assembled in a row and to separate and support the assembled rows, stay plates 6 extend therebetween to locate on the marginal edges of the side walls of the frame 1.

In addition, the opening 2 is closed by a compression and packer assembly 7 which clamps and holds the rows of blocks in place and applies pressure to the blocks.

With reference also to Figures 3,4 and 5, the compression and packer assembly 7 comprises a pressure plate 8, three compression blocks 9,10 and 11 each having a respective compressor stud 12,13 and 14 extending therethrough. Each compression block 9,10 and 11 has a respective rear support plate 15,16 and 17 against which the rear head of each respective stud 12,13 and 14 engages. Each stud 12,13 and 14 extends through the respective block and through aligned openings in a front support plate 18 with respective nuts 19,20 and 21 being in threaded engagement with the free end of the associated stud projecting through the front support plate 18.

The pressure plate 8 is a rigid body having a planar underside 22 for engagement with the upper faces of the top row of blocks 5a, and an edge flange 23 on each side of the plate 8 provides location ledges overlying the upper marginal edges of the blocks as well as providing outer end lug portions that extend outwardly and engage the outer faces of the sides of the frame 1. The topside of the plate 8 has a flat central portion 24 and opposed inclined portions 25.

Each of the compression blocks 9,10 and 11 are made of a resilient material and the outer blocks 9 and 11 have respective through holes 26,27 that extend transverse and spaced from the respective axes of the compression studs 12 and 14. As best shown in Figure 4, a respective limit pin 28 is mounted in each through hole 26,27 and this pin 28 is arranged to engage the inner face of the top of the frame 1 and the inclined portion of the pressure plate 8 so as to limit the degree of deformation of the blocks 9 and 11 when compression loading is applied to the blocks in the direction of the axis of the limit pins as later explained.

The upper wall 29 of the frame 1 is provided with a central clearance hole 30. A hexagonal shaped boss 31 is rigidly mounted on the upper wall 29 and projects therefrom aligned with the clearance hole 30. The boss has an internal blind threaded bore 32 and a compression bolt 33 is in threaded engagement within the bore 32 with the head 34 of the bolt 33 being accessible through the clearance hole 30 for rotation by a suitable tool. As should be appeciated, the bolt 34 can be unthreaded to extend into the void below the boss 31 when the central compression block 10 is not fitted, and the head 34 of the bolt will engage with the central portion 24 of the plate 8.

The compression blocks 9 and 11 are similar and have inner taper faces that lie adjacent to the opposed side faces of the central compression block 10. The central block 10 is generally in the form of a wedge with the opposed side faces diverging from the front of the block as well as converging towards each other towards the underside of the block to present a flat

underside face 35 engaging the flat central portion 24 of the plate 8. The inner taper faces of the outer compression blocks 9 and 10 are complementary to the wedge faces of the central block 10. The underside faces of the compression blocks 9 and 10 are inclined and complementary to the respective inclined portions 25 of the plate 8.

With reference also to Figure 6, each lead-through block 4 is similar and comprises two complementary half-blocks 40 and cable members 41 that are assembled together as later described either with the cable 3 extending therebetween generally as depicted in the view of the cable transit shown in Figure 1.

All of the modular blocks including the lead-through half-blocks 40 and the cable members 41 are formed from a resilient material which may be the same material as used for the compression blocks 9,10 and 11.

Each half-block 40 is similar and complementary providing a semi-cylindrical seating 42 extending axially to receive cable members 41. Each half-block 40 has semi-cylindrical axially spaced seatings 43 that define axially spaced seating and sealing faces for engagement with the outer right-cylindrical seating face 44 of the cable members 41. Intermediate each seating face 43 of each half-block 40 there is a semi-cylindrical recess 45. On each opposed outer side wall of the half-blocks 40 there are grooves 46 which extend transversely to the axis of the seating 42. These outer grooves 46 are provided to enable some resilient deformation of the half-blocks in use as later described.

The cable members 41 of this first type as shown in Figure 6 are complementary to each other and each are provided with inner faces 47 that, when the members are assembled, provide a central passageway 48 having a sectional shape that is complementary to that of the cable 3. The cable members 41 have an axial length the same as that of the half-blocks 40 and are arranged and designed to seat on and be in sealing engagement with the annular seating and sealing faces 43 of the half-blocks. As will be appreciated, the cable members 41 can be seated in the half-blocks 40 with the diametrically extending interface between the cable members extending at any circumferential attitude relative to the half-blocks.

In this first type of cable member 41, the outer seating face 44 of the assembled pair of complementary cable members 41 presents a right-cylindrical surface engaged with the annular seatings 43 of the half-blocks 40.

With reference now to Figure 7, this shows a second type of cable members 41 and for convenience herein the same reference numerals are used for those parts which are common to those as just described with reference to Figure 6 and the first type of cable members 41 and half-blocks 40.

In the second type of cable members 41, the members 41 are each complementary and have a primary right-cylindrical outer surface 44 for seating and sealing engagement with the semi-cylindrical seating faces 43 of the half-blocks as just described. However, each cable member 41 is provided with a series of semi-annular ribs orprojections 49 that are adapted to be received within the respective recesses 45

extending intermediate the seatings 43 in the half-block 40.

In this second type of cable member, the ribs 49 provide a positive location of the cable members when received in the half-blocks and such inter-engagement reduces the risk that the cable members could be pulled out of the half-blocks under any axial load or pressure.

With reference now to Figure 8 wherein the same references are used for those parts which are common to those just described, there is shown a half-block 40 which has plain opposed sides. The cable member 41 has a series of axially spaced ribs or saw-tooth projections 50 projecting from the inner surface 47.

In the half-block 40 of Figure 8 the sides are plain to provide a full sealing interface between adjacent blocks 4 and/or the frame 1 as later described. The inner surface of the cable member 41 is provided with the projections 50 to ensure adequate sealing engagement with particular types or finishes of cable. Preferably, such projections 50 are deformable locally to accommodate minor imperfections or irregularities in the cable surface.

The cable transit as aforedescribed is assembled from the individual components, and firstly the frame 1 is located in the structure with the runs of cables 3 extending through the opening 2 of the frame 1. The fitter is presumed to have the selection of modular lead-through blocks 4 as just described with selected cable members for each type, size and shape of cable and a number of blanking blocks 5.

As depicted in Figure 1, the largest lead-through block 4c is used in the lower row with a blanking

block 5c. Firstly the lower half-block 40c is set against the bottom inner wall of the frame 1 next to the blanking block 5c. A cable member 41 to fit the cable 3 is located or fitted in the semi-cylindrical seating 42 of the half-block 40c. The cable 3 is located between this cable member 41 and another complementary one. Then the upper half-block 40c is seated on top to form the lead-through block closing over the cable and the cable members 41 which are located or received in the upper half-block.

If the ribbed second type of cable member 41 is used, then the cable members 41 are located in the correct recesses of each half-block. If the semi-cylindrical form of cable members of the first type are used, then the end faces of each cable member has to be brought into alignment and register with the end face of the half-block.

The stay plate 6 is then inserted in place on top of this lower row of blocks with the marginal flanged edges of the stay plate 6 riding over the side edges of the frame 1 to locate the stay plate 6 in a similar manner as for the pressure plate 8.

The fitter then selects the next cable 3 to be located in the lead-through blocks 4b for the next row and this row includes solid blanking blocks 5b. The assembly using the cable members 41 sized for the cable 3 is as for the first row, and when the block 4b and blocks 5b are assembled another stay plate 6 is located over the row of blocks.

The third row of blocks 4a, 4'a and 5a is then assembled in a similar manner, and all of the cable runs are enclosed by the selected sized lead-through blocks and modular spaces are filled either by the

solid blocks 5a or the blanking lead-through blocks 4'a. The lower portion of the frame opening is filled by the rows of blocks and stay plates 6.

The oval-shaped cables 3 can extend at different circumferential attitudes through the transit frame, for instance as seen in Figure 1 with reference to the lower row and the other rows.

Once this assembly has been completed by the fitter, it is then necessary to apply pressure to the assembled blocks and cables to clamp and seal the blocks together as well as to seal such sized lead-through blocks to the cable. In addition, the remainder of the opening in the frame 1 must be closed or filled. This next stage to complete the assembly is by the component parts of the compression and packer assembly as previously mentioned.

The pressure plate 8 is located over the third row of blocks and seated over the assembled array of blocks and cables. Due to the resilient nature of the blocks and the effect of the cables, pressure must be applied to the assembled blocks to compress the blocks around the cables to seal the lead-through blocks both around the cable and to clamp them together and against the side walls of the frame 1 and to the stay plates 6.

To apply this pressure, the compression bolt 33 is rotated to bring the head 34 into engagement with the flat central portion 24 of the plate 8 and on further rotation of the head 34 compressive forces are applied through the plate 8 to the assembled blocks.

Once the compressive forces are sufficient to leave a clearance space between the pressure plate 8 and the inner face of the top frame wall 29, the fitter can insert the two outer compression blocks 9

and 11 in the clearance space clear of the compression bolt which only extends to the centre of the clearance space and does not interfere with the fitting of the two side blocks 9 and 11.

Following the insertion of the two side compression blocks 9 and 11, the compression bolt 33 can be counter-rotated to return the bolt into the bore of the boss 31 leaving the central area over the pressure plate 8 free for insertion of the central wedge shaped compression block 10 between the two side blocks 9 and 11. The assembly of the rows of blocks and cables will continue to exert reactive forces on the pressure plate 8 tending to displace it towards the top wall of the frame, and thus tending to compress the blocks 9 and 11. To obviate the affect of these reactive forces, the limit pins 28 mounted in the compression blocks 9 and 11 restrict squeezing of the blocks.

Once the three compression blocks 9,10 and 11 are received within the clearance, the front support plate 18 can be engaged over the free ends of each of the compressor studs 12,13 and 14 and the respective nuts 19,20 and 21 placed in threaded engagement. The fitter then tightens each of the nuts 19,20 and 21 to apply compressive forces to the compression blocks so that the three blocks are brought into wedge clamping engagement with each other and brought into engagement with the support plate 18. On tightening of the nuts, each of the compression blocks 9,10 and 11 is squeezed so as to cause resilient displacement of the block material in a direction transverse to the axis of each compressor stud thereby expanding the assembly both to fill the clearance opening between the pressure plate 8

and the frame 1 and to exert the required clamping pressure onto the assembly of blocks and cables beneath the pressure plate 8.

Accordingly, the compression and packer assembly 7 completes the filling of the opening 2 in the frame 1 whilst also applying the necessary forces to the assembled rows of blocks and cables to ensure that whole assembly is sealed together and securely located against displacement.

The forces applied to the assembled rows of the lead-through and blank blocks are sufficient to cause each lead-through block including the cable members to be maintained in clamping and sealing engagement with the cable.

As will be understood, the fitting of the cable transit arises in various environments, and the cable transit may be installed as described in the vertical position, but it may be installed horizontally where safe retention and ease of assembly of the blocks and other component parts is required. In addition, the fitter may have to work in elevated positions on ladders or in confined positions where the number of blocks with existing transits is excessive with one block for each size of cable. Thus, the cable transit of this invention with the special novel feature of the cable members as part of the lead-through blocks provides many advantages over the prior art systems.

The exemplary embodiments described are simplified for an understanding of this invention, and the numbers and relative dimensions of the blocks may be varied whilst maintaining the principles of modular sizes, and of course in known manner, more than one block may fill a modular space, for instance four small blocks as shown in row a may fill a modular space in row c.

The resilient material of which the lead-through and blanking blocks as well as the compression blocks are made can be of any suitable material which is flame-resistant, fire-resistant, water-resistant and resistant to effects of rodent attack, ageing, and temperature variations.

To those familiar with this subject matter of transits for cables and pipes, it will be appreciated that the cable members may be made to match the particular shape and type of cable or pipe for which the transit is to be used. In addition, the special type of lead-through blocks with the cable members can be used with the traditional type of lead-through blocks used for cables and pipes of circular section. For convenience, the particular type of half-block as described herein with reference to Figure 6 may be used without the cable members for seating and sealing a cable or pipe of circular section in the transit assembly.

If convenient, a standard size of half-block for a modular range of lead-through blocks could be employed with the cable members being designed to accommodate a range of different sizes and/or shapes of cables. A range of cable members could be available to the fitter for fitting to a selected nominal range of half-blocks.

Various other applications and modifications making use of the invention and the principles thereof are possible and the examples herein are not considered to be exhaustive.

Throughout this Description, reference has been made to cables as this is the commonest form of use of transits through bulkheads, partitions or the like. However, the invented cable transit can be used and

applied to pipes or conduits and the term "cable" is not intended to be a limitation to the application and use of the invention nor is the use of the term "cable" to be interpreted as a limitation to the scope of this invention.

Claims:

1. A transit for cables comprises a rectangular metal frame defining an opening through which the cables are to extend, a series of sets of modular blocks for assembly in rows within the frame opening, the blocks being either lead-through blocks adapted for surrounding each cable or blanking blocks for blanking off a modular space, and a compression and packer assembly for mounting in the frame opening to clamp the assembled blocks together and around each cable with the compression and packer assembly completing filling of the frame opening, characterised in that at least one lead-through block is adapted for surrounding cable of non-circular section and comprises two complementary half-blocks and two complementary cable members, the half-blocks having semi-cylindrical seatings formed therein to receive complementary outer seating faces on the cable members and the cable members being formed with inner faces to define an axial passageway of non-circular shape corresponding to the cable when the two cable members are assembled together, the arrangement of the leadthrough block being such that in use the cable is received between the two complementary cable members and extends through the axial passageway formed thereby and, the cable members are located and received between the half-blocks engaging the semi-cylindrical seatings thereof.

2. A transit according to Claim 1 wherein the complementary half-blocks are formed with at least two axially spaced semi-cylindrical seatings.

3. A transit according to Claim 2 wherein the half-blocks are formed with semi-cylindrical recesses intermediate the semi-cylindrical seatings.

4. A transit according to Claim 3 wherein the cable members are formed with complementary semi-annular ribs on their outer faces to seat in the semi-cylindrical recesses.

5. A transit according to any one of Claims 1 to 3 wherein the outer seating faces of the cable members provide a right cylindrical surface when the cable members are assembled.

6. A transit according to any one of the preceding Claims wherein the inner faces of the cable members are plain.

7. A transit according to any one of Claims 1 to 5 wherein the inner faces of the cable members have deformable formations for sealing engagement with the cable.

8. A transit according to any one of the preceding Claims wherein the axial passageway defined by the inner faces of the cable members is of symmetrical non-circular shape.

9. A transit according to any one of Claim 1 to 7 wherein the axial passageway defined by the inner faces of the cable members is of asymmetrical non-circular shape.

10. A transit according to any one of the preceding Claims wherein the outer faces of the half-blocks are plain.

11. A transit according to any one of Claims 1 to 9 wherein the outer faces of the half-blocks have grooves or recesses therein which extend transverse to the axial direction of the passageway.

12. A transit according to Claim 11 wherein the recesses or grooves are provided on two opposed outer side faces of the half-blocks.

13. A transit according to any one of the preceding Claims wherein at least one further lead-through block is adapted for surrounding cable of circular section.

14. A transit for cables comprises a rectangular metal frame defining an opening through which cables extend, a series of sets of modular blocks assembled in rows within the frame opening, each block being either a lead-through block surrounding a respective cable or a blanking block blanking off a modular space, and a compression and packer assembly mounted in the frame opening to clamp the assembled blocks together and around each cable with the compression and packer assembly completing filling of the frame opening, characterised in that at least one lead-through block surrounds a cable of non-circular section and comprises two half-blocks and two cable members located and received between the half-blocks, the cable members having inner faces defining an axial passageway of non-circular shape through which the cable extends and outer faces engaging seating faces formed in the half blocks.

15. A transit according to Claim 14 wherein the cable members are rotatable relative to the half-blocks.

16. A transit according to Claim 14 or Claim 15 wherein the cable members and half-blocks are located against axial movement relative to each other.

17. In a sealed lead-through transit for cables of the kind comprising a rectangular metal frame defining an opening through which the cables extend, a series of modular blocks assembled in rows within the frame opening, each block being either a lead-through block surrounding a respective cable or a blanking block blanking off a modular space, and a compression and

packer assembly mounted in the frame opening to clamp the assembled blocks together and around each cable with the compression and packer assembly completing filling of the frame opening, at least one cable is of non-circular section and extends through an axial passageway of corresponding shape defined by two cable members, the cable members being located and received between two half-blocks of the lead-through block for the cable.

18. A transit for cables substantially as hereinbefore described with reference to Figures 1 to 6 of the accompanying drawings.

19. A transit for cables substantially as hereinbefore described with reference to Figures 1 to 6 as modified by Figure 7 of the accompanying drawings.

20. A transit for cables substantially as hereinbefore described with reference to Figures 1 to 6 as modified by Figures 7 and 8 of the accompanying drawings.

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